season which generally ends with the month of September. 439
When the caravaneers arrive earlier, they wait in the Tamasna 484
region and protect their salt by hiding it in the crags of the rocks.

[291]
[177]

Fig. 24. Irratimen sandal of Hausa make, such as the Ihaggaren wear.

[435]

At any rate they always stay at least two months in that region so that their camels may regain their strength. Then, they go in small groups toward the Damergou where they know people in some villages with whom they exchange their salt for millet. These exchanges are made on variable bases, depending on whether or not the millet harvest has been abundant, or whether the salt has arrived in greater or lesser quantity. Most generally they are made on the basis of one load of salt for three loads of millet, but sometimes in the proportion of one load of salt for ten loads of millet, which is much to the advantage of the Ihaggaren.

Since they do not have enough camels to carry all this grain back, and since they do not need that much grain in the Ahaggar, they sell or exchange a good part of it for manufactured objects, which are easy to transport and /220/ easy to dispose of -- sandals, saddle bags, camel saddles, leather boxes,

291 /265/ Clothes, except for the gandurah made of cotton bands,
439 are made of material imported from Europe. This material, called
chêga, is heavily dyed with indigo, giving it a very dark gloss; it
[556] is the favorite material of Tuareg men and women, but it is replaced by ordinary cloth among less well-off people.

Veils are manufactured in English Nigeria, in the village of Koura near the large city of Kano. They are made by assembling
[435] a multitude of little cloth bands. They are very expensive and can cost from three to five goats, depending on the quality. In
[177] Hausa language they bear the name toukourdi, which has been
[436] adopted by the Tuareg. For a long time they have served as exchange currency for commercial transactions.

291 It has been asked many times why the Tuareg were led to veil
174 their faces. Hygiene, which has often been mentioned, and the need to protect their respiratory tracts against sandstorms, are not sufficient reasons to explain this practice. There is something else, a /266/ very ancient enigmatic custom whose origin is lost in the night of time and which is kept up without their really knowing why. It is so deep rooted among the Tuareg, however, that they cannot conceive of a self-respecting man who can forego wearing the veil.

The headless men and acephalous people of ancient authors certainly owed their cognomen only to this very peculiar custom of hiding their faces, a custom which must have already existed in this remote epoch. One can only construct hypotheses on the origin of this veil.

We know through Ibn Khaldoun that the wearing of the veil was in general use among the peoples who inhabited the Atlantic coast and adjacent countries in the fourth century. This establishes that the custom is very ancient.

In the rock paintings from prehistoric or protohistoric times which have been discovered in the central Sahara in the last few years, we have noted the very peculiar method of representing the

438 [437] Sheep trading, which has grown greatly in these last few years, is largely carried on by barter. It is especially done by Arab caravaneers from the Touat who go to the Sudan with dates, tobacco, fabrics, and blankets, which they exchange not in the markets but in the camps. Tuareg from the Adrar des Iforas and Kounta Arabs also do the opposite and take their sheep to the Tidikelt and Touat.

439 435 In 1939 the sale price of sheep on the market at In-Salah was from 75 to 100 francs. The purchase price in the Sudan varied from 35 to 45 francs, but as we said, barter was most often the basis for all transactions.

And so for a camel that they received the Adrar Tuareg gave 120 sheep. One sheep alone was exchanged for 12 or 15 cubits of cloth or /317/ 10 guêcâa of dates. A dokkali, a large blanket from the Touat which the Tuareg hold in high esteem, was worth 10 sheep in the Sudan and 7 in the Adrar.

436 [177] The camel served as a basis of exchange. The Tuareg have never used money, although they did accept the Maria Theresa dollar which circulated in the Sudan and the Turkish livre which was widespread in Tripolitania. Sudanese tribes negotiated with [825] toukourdi, the band of material serving as a veil, and with kori (Cypraea moneta), a little seashell native to the Indian Ocean.

648 439 Since the French occupation we have seen a certain number of native merchants settle at Tamanrasset, the administrative capital of the Ahaggar. They are for the most part Mozabites and a few Arabs from Metlili who have constructed shops and have merchandise sent them by their correspondents in the Algerian Tell.

[305] This recent state of affairs tends to grow more and more extensive, and the postal agency at Tamanrasset records several million transactions every year.

They use camel hair to make rope. They are fond of camel meat, and it is they who supply the markets of the Tidikelt with it. 237 283 262 439

There are very few cattle in the Ahaggar, barely thirty, and almost all these belong to Si Mokhammed ag Otsmane, of Tazerouk. They are used to draw water from the wells into the ar'erems. The pasture is scanty, and besides the cattle easily wear out their hooves on the rocks and stones. 233 492 [312]

In the Koudia, because of the cold which prevails there and the high altitude, there are many small turrets of dry stones, /65/ empty inside, in which the Tuareg confine lambs and kids at night to shelter them from the cold. 233 343

The Ahaggar do not have a large number of meharis, and they do not like to sell them, especially the good ones. Among themselves, to set the value of a mehari, they say, "Such a mehari is worth two, three, or four camels." All their meharis are trained to start at a gallop. The Tuareg has great patience with the training of his mehari and never mistreats it. He confines himself to persuading it by voice and foot, and it is perhaps for this reason that the Tuareg mehari is much more silent than the Arab mehari. 233 [435]

The foundation of the pastures of the Ahaggar is aremmas (Atriplex halimus, Salsolaceae). This plant is quite laxative. So when the year is bad and drought prevails, the Ahaggar are found emigrating toward the Adhar'. There are fine pastures of "had" (Cornulaca monacantha, Salsolaceae) in the south of Tin R'arhou, but there is no water. Moussa ag Amastane /66/ intends to have wells dug there and has requested our help and advice for this purpose. 137 233 [312 648]

As a rule the Tuareg let their camels out to pasture without herders, and they find them again at the well or by tracking, unless they entrust the herding to children or negroes. 233

/67/ A young camel is called "abal" without designating its age. A camel in general is called "amadjour," plural "imoudjar," or else "amiss," plural "imnass." A female is 192 233

All the transactions that they make take place by means of barter. The most important profits that they realize result from barter carried on in the Aïr and the Niger with the salt, "chegga," and dates that they take there. 437 439

Market Prices in the Ahaggar

There are no set prices for meharis, or male or female camels. However, the prices for young camels are fixed and known. Thus: 435

A four-year-old camel, "aqnefoud," is worth 100 francs
" three-year-old " , "aleggues," " " " 75 "
" two-year-old " , "aledjoudh," " " " 50 "

For sheep and goats, the price basis is the goat, which is worth 3 mitqals, or 7.50 francs. A ewe is worth a goat and a half, or 11.25 francs, and a ram, two goats, or 15 francs.

A load of dates sells in the Ahaggar for 75 francs.

Barley sells for 1 franc per "guessaâ" or 60 francs for a load of 60 "guessaâs." Wheat is 1.25 francs per "guessaâ," or 75 francs per load.

"Chegga" sells for 1.25 per meter. /70/

Melted butter is sold at 7 "mouddas" (a small wooden measure) for a goat, or 7.50 francs.

Market Prices in the Ahnet

One female camel, 50 to 60 mitqals (125 to 150 francs)
One load of dates, 30 mitqals (75 francs)
One sheep, 7.50 francs
One goat, 10 francs
Melted butter, 7 "mouddas" for 7.50 francs
One donkey, 25 francs

565/56 cont./ and who over a period of time have adopted
463 Tuareg ways (their specialization and their character lend
174 credence to this theory). Some maalmines say that they came to the Ahaggar in the time of the sultan Goma, having been separated from the Idenan tribe of which they were members. Others claim to have always belonged to the Tuareg confederation.

565 In the Ahaggar the maalmines include 17 men, about 20
463 women, and about 40 children. They have ten iklan.

[162] The men are many-sided craftsmen, often clever and fairly artistic; in view of the material they have to work with and the tools at their disposal, one may say that they are remarkable. The women work leather with skill and art. The maalmines are not grouped in tribes but form small families scattered in every corner of the Ahaggar. When a tribe, noble or imrad, needs some work done, it sends for a craftsman and provides him with animals for transporting himself and his equipment. He lives with the tribe during the time necessary for his task and is provided for by the tribe. When the work is done he is paid, according to how satisfactory it is considered, in goats, millet, milk, butter, even camels, but there is no fixed rate paid to the maalmines by the Tuareg. There is a different arrangement when they work for the harratin, who, not being so noble as the Tuareg, would not know how to reward good work with the proper generosity. They are therefore charged the following rate: for one new
● [435] hoe (made from an old oil drum): five guessa /dishes/ of wheat or millet; for four rivets put in an old hoe, one guessa of grain; for a new axe the price used to be a goat or five guessa, but since the advent of the black market there is no accurate quotation.

435 For making jewelry, there is a special price fixed by
565 custom, even for the Tuareg; thus for bracelets and earrings
463 the Targui furnishes, for example, ten pieces of silver necessary for making two bracelets; the maalem keeps five

435 /56 cont./ for himself, or else the Targui pays him in actual
463 money the value of the five pieces.
565 /57/ The same price applies for rings and pendants. The
463 inaden have an ill-defined position in Tuareg society; some
565 consider them inferior to the imrads, others place them between the nobles and the imrads. It is certain that the maalmines are proud and are far from suffering from an inferiority complex. They are very well acquainted with Tuareg customs, the country, and the people, and are, in brief, the custodians of certain traditions of art, or, it could be said, of culture.

The tinadin, women of the maalmines, work leather as do all Tuareg women, but with them it takes on the character of a profession. They are very skillful and artistic, and their specialty is making cases for the iremdan /a tool/, sheaths for knives, and saber scabbards called "tittar n'takouba."

The Harratin

565 The harratin of the Ahaggar represent, as they do elsewhere in the Sahara, the sedentary element, chiefly agricultural.

The term designates, in the thought of the region, a caste in Tuareg society. When one questions a Kel Ahaggar about the ranking of the different castes, he places the nobles, ihaggarènes, first; then the vassals, imrads, making a distinction among them of the issakamaren, who are the lowest in the caste; then come the iklan (slaves, let us say, domestic ones) -- these iklan are Blacks, and their difference from the Tuareg is evident from their ethnic type.(1).

1. A parallel Moslem religious and maraboutic hierarchy exists: (Chorfa -- Zaoui -- Arabs -- Mozabites).

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Fig. 25. Ram prevented from mating by means of a cord (*uyun*) tied around the foreskin of the penis and also around the scrotum. A longitudinal hobble-rope (*amahus*) also serves to prevent copulation.
Tasilé-n-Ajjer, the *Kel Terurit* tribe.

[435] [282] [237] [225] the price of sheep for slaughtering is very high compared with the price of goats. Sheep are also considered the proper animals for Islamic sacrifices, and it should be added that sheepskin is considered very suitable for the manufacture of certain articles (cf. p. 288 & p. 298; Figs. 232, 240).

The Tuareg say that sheep are more "stupid" or less "intelligent" than goats. Sheep do not respond to their names, they get more easily lost during grazing, and they do not return to the camp by themselves. It is difficult to herd sheep if there are no goats in the flock. Among the Tuareg, as elsewhere in North Africa, sheep and goats are normally mixed in one flock. The goats then always march at the head of the flock, obeying the orders of the herdsman, while the sheep follow behind. It may happen, however, that goats and sheep become divided during grazing, as goats march too quickly for sheep to follow them, while on long journeys sheep show more endurance than goats.

The techniques of sheep-breeding are largely identical with those of goat-breeding mentioned above. 234 It should be observed, however, that goats can be milked without any difficulty whether they have kids or not, while this is not always so with sheep. It is said that they are more easily milked when they have lambs. Both in Ahaggar and in Ayr I have noted more than once that a good milch-sheep which had lost its lamb was given another lamb belonging to a sheep yielding less milk.

*233 Sheep can lamb until an age of seven or eight years, but it is considered appropriate to kill them for

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or Ingal) for selling, they are also frequently provided with a wooden prong (*aburi*) loosely attached around one foreleg to prevent them running away. I have never seen this practised among the Fulani who have much more control over their cattle than have the Ayr Tuareg.

Cows continue to bring forth calves and yield milk until they are about 15 years old, and the duration of their life is estimated at about 20 years. But it is considered appropriate to keep milch-cows until they are ten or twelve years old when they should be sold or killed. The period of gestation for cows is about ten months, and there is no regulation of mating. The Tuareg say that cows will be on heat and mate again shortly after the birth of a calf, and that milk-yielding does not stop until five months after mating. Free mating of the cows agrees well with Tuareg interests as prices of calves are high.

Milking of cows takes place twice daily and is generally done by women – in rare cases by men. Milking is performed as follows:— Just before the herd returns from grazing in the evening every calf is firmly attached to a tree by means of a cord (*témetrek*) around its neck so that it cannot reach the udder of the mother cow. When milking is to take place the mother cow is attached to the same tree by means of a cord (*aran*) around its horns. The calf's rope is now loosened and it will immediately start to suck while the milk-maid fastenes another rope or cord (*akarab*) around the hind legs of the cow. When this is done the calf is attached to its tree again, and milking begins. The milk-maid squats at one side of the cow (generally at the right side) holding the large milking bowl (*akabar*) (Fig. 37) between her legs and knees, and milks with both hands (Fig. 29). When the milk-maid has taken the milk she wants she releases the calf to let it drink what is left in the udder, but the calf is thereupon attached to its tree again in order that it may not suck during the night. Before the cows leave the camp in the morning milking is performed again as just described, but it may happen that the cows leave for grazing already during the night, and they are then not milked again until next evening. Tuareg who possess a great many calves may guard them within a so-called *zeriba* (*afurag*) made of thorny acacia boughs.

Most cows will not yield milk unless they have their calves close to them. If a cow loses its calf it may be replaced with the calf of another cow so that milking can be done, but it is also common to use the so-called dummy-calf (*azeyuz*) made from the dead calf's skin stuffed with hay. This puppet is then set close to the cow which is deceived by it. It feels that its calf is standing by, it licks the skin, and milking can then be done without much difficulty.

The dummy-calf is not used by the zebu-owning agriculturists of Ahaggar, though I have met one of these *Harratin* (*Izeggaren*) who had once made a calfskin-puppet after he had seen the method practised among *Iforas* Tuareg at Kidal. The method of blowing into the cow's vulva is known to the Ayr Tuareg as *askuf*; it is used particularly for cows which are difficult to milk shortly after the birth of a calf. During migrations, when young calves march together with the mother cows, suckling is prevented by means of a piece of dum palm leaf attached around the calves' mouths. Such an attachment known to the Ayr Tuareg as *adabar* may be used also for other domestic animals.

Weaning of calves takes place according to one of the following methods:— (1) *ikembar*, that is cuttings made with a knife in two or three places on the bridge of the calf's nose. The wounds of these cuts hurt the calf when it tries to suck, but the method is effective only for a very short period until the wounds have healed. On adult animals the scars of these wounds appear as small bumps (Fig. 30).

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Fig. 35. A young camel (about 14 months old) sucks its mother before milking. The Tuareg boy bends up the right foreleg of the she-camel and ties it in this bent position to the left foreleg – a method known as *ɛsemmetil*; it is applied to she-camels that are restless during milking. The she-camel has the colour name *tɛzerift*, its big calf that of *atlay*. Ayr, the *Imezzureg* tribe.

*233 (cf. Cauvet 1925–26, I, p. 15, 76 ff.). I have inquired about this, and the Tuareg seem to hold that
[114] all camels have an identical number of teeth.

She-camels should ideally be reserved for breeding which is a very slow process. A severe loss of goats during a drought can be restored quickly once rainfalls start again, but this is not so with a loss of camels. She-camels are not generally mated until they are about three years old, and their gestation period is about one year. In addition, she-camels get only one calf which has a long period of sucking so that a she-camel is frequently not mated until one year after the birth of a calf. In other words:—
[435] One she-camel has only one calf every two years. For this reason, and because a grown camel has about the same value as 25–30 goats, the Tuareg pay much more attention to camel-breeding than to the breeding of goats and sheep.

Most she-camels are mated during the cold season in Ahaggar, while the proper season of mating in Ayr is *akasa* with the beginning of *ɣarat*, though some she-camels are also mated in the spring period known as *tabsit*. As the gestation period is about one year most camel calves are born during the cold season in the north, in the rainy season when annual plants are well developed in the south. The rutting male camels roam freely in search of she-camels on heat, and a Tuareg may own several she-camels and not even possess a bull-camel for breeding. Both in Ahaggar and in Ayr there are Tuareg who try to keep their very excellent bull-camels away from herds other than their own, but this is considered very bad conduct. In fact, there are Tuareg who do not know with which bull-camels their she-camels mate though the act of mating is normally seen and heard by somebody. Mating is also very frequently arranged by the Tuareg who then assist the bull-camel in introducing its penis into the she-camel's vagina. The act of mating may be connected with some difficulty for the bull-camel because the she-camel has to lie down on the ground during copulation.

A she-camel is well looked after during the period it is expected to have a calf. She stands upright while bearing the calf, and the umbilical cord breaks when the calf falls to the ground. The birth of a calf is not always seen by the owners but they will generally be present at least a few hours after birth.

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to the killing of a camel for wedding guests. Otherwise the Northern Tuareg like those of Ayr only kill sick animals for food.

There are certain practical reasons why camels should not normally be killed for food among the Tuareg. Even very old camels fetch high prices at markets of the northern oases (Tamanrasset, Tidikelt), and the Tuareg prefer to get the money instead of eating their old camels. This is easily understood when we consider the fact that one camel contains so much meat that it cannot be eaten quickly by the members of a household, and camel's meat is rather tough and must be boiled for several hours to be eatable. Besides, camel's meat is not very well suited to be preserved for eating at a later date on journeys. However, it can be dried and when sick camels are killed part of their meat is often prepared in this way.

A camel is killed in a very particular way quite different from the method of slaughtering other domestic animals and game. It is killed as follows:— Cords are attached very firmly around the legs of the animal which is kept to the ground by several men who sit on its back and draw its head backwards. The artery is thereupon opened at the lower part of the neck close to the chest, and the knife is thrust into the animal at this place, but not so deeply as to touch the heart or the entrails. This stab is quite sufficient to kill the camel, but some people also cut its throat close to the head in the way other domestic animals are killed. Very peculiar also is the way camels are skinned. While other animals are skinned in such a way that the hide can be removed as entire as possible (cf. Fig. 173), the carcass of a camel is cut up before skinning. The four legs with their thighs are cut loose close to the carcass, which is thereupon cut into several parts by means of a large chopping-knife or an axe (cf. Fig. 44). The hide is thus removed from the carcass after partitioning; but it is difficult to remove the hide as it sticks firmly to the meat, and only part of it is taken off for later use. In Ayr the Tuareg do not

Fig. 44. Skinning and partitioning of a young camel. Ayr, *Irawelen*.

[text continues on p. 67]

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685 648 One of the principal tasks of the Ayr camel patrol consists in hunting down camel thieves to take them to Agadez and prove their guilt. Most Tuareg sympathize with this judicial work of the French but claim that it is too ineffective.

232 * 492 [435] The Tuareg still take a very great interest in the breeding of riding camels, and extremely good riding animals are occasionally sold for a price equal to that paid for five or six normal camels. When a calf is born they at once recognize whether it will be well fitted for riding or not, for there are certain basic characteristics of riding camels. Ideally they should have a relatively short body, be deep-chested, and of high stature with small feet and slender limbs. For pack-camels they prefer heavy and strong animals with very large feet. Both for riding and for transportation they prefer bulls or castrated animals. Geldings are calmer than bull-camels which are often very fierce and dangerous when she-camels are on heat. Rutting bull-camels may even attack people, and they will fight each other – sometimes with the result that one of them is bitten to death. But there is another reason for castration. For bull-camels which have not been allowed to mate freely with she-camels are generally not very difficult to handle. Castration makes bull-camels stronger and more enduring as they more easily grow fat and get larger humps than non-castrated animals. Castration is never carried out until the bull-camel is fully grown, and both in Ahaggar and in Ayr castration is performed comparatively late when the animals are about five or six years old, or later. Many bull-camels are castrated at an age of ten or eleven years.

* 233 * 492 She-camels are not generally used for riding and transportation, but are reserved for breeding. But some Tuareg may use their she-camels even for extensive trading expeditions, and there are Tuareg who prefer to ride she-camels because of their smoother walk. If a Tuareg has a very good she-camel as a riding animal he may even desire to prevent it from mating by the insertion of a very small pebble into the uterus of the she-camel which will then not be able to mate until the pebble is removed. However,

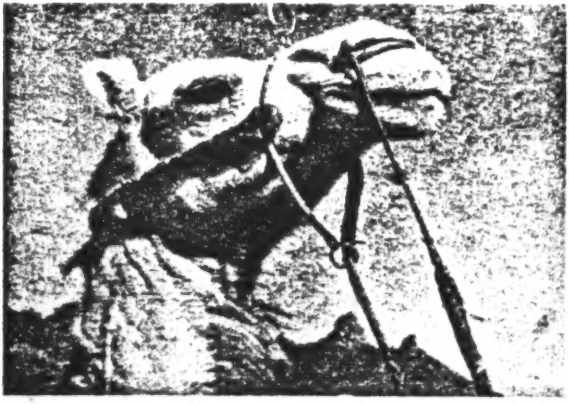

Fig. 50. The headgear known as *akeskabbu*. The upper iron shackle resting upon the bridge of the nose is called *akeskabbu*, the lower shackle to be tightened against the chin is known as *amadel*. The two shackles are connected with a rein of ornamented leather, the other end of which is fastened to the nostril ring (*tigemt*). Ahaggar, the *Ikkn-en-tawsit* tribe.

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The khamast system	*Cultivator* Receipts	Expenditure	*Tuareg Garden Owner* Receipts	Expenditure
The *khamast* division	140 kg		560 kg	
Land rent		5 kg		5 kg
Yield of one garden bed to blacksmith		5 kg		5 kg
Seed-corn				50 kg
Food given to the cultivator	150 kg			150 kg
	290 kg	10 kg	560 kg	210 kg
Net profit	280 kg		350 kg	
The tilt system				
The tilt division	233 kg		466 kg	
Land rent		5 kg		5 kg
Yield of one garden bed to blacksmith		5 kg		5 kg
Seed-corn		25 kg		25 kg
Food given to the cultivator	150 kg			150 kg
	383 kg	35 kg	466 kg	185 kg
Net profit	348 kg		281 kg	
The aril system				
The *aril* division	350 kg		350 kg	
Land rent		5 kg		5 kg
Yield of one garden bed to blacksmith		5 kg		5 kg
Seed-corn		25 kg		25 kg
Food given to the cultivator	75 kg			75 kg
	425 kg	35 kg	350 kg	110 kg
Net profit	390 kg		240 kg	

A few notes should be added to these calculations of receipts and expenditure in the three systems. Thus the profit of the cultivator in all three systems is somewhat bigger than is indicated. The hoe is given by the Tuareg garden owner, who must also make certain payments for irrigation work and for the making of new garden beds as mentioned above. The garden owner's net profit in kilogrammes is consequently somewhat lower than indicated, but it should be mentioned that payments made by a Tuareg garden owner are hardly ever made in wheat and barley, but mainly in millet and dates which are less valuable, particularly so because the pastoral Tuareg acquire millet and dates at very low prices during their caravan expeditions (cf. p. 209 ff.). Therefore, the profit made by a Tuareg garden owner cannot so easily be given in kilogrammes of agricultural food products. It is evident that all three systems are profitable to the Tuareg, and it is clear that an agriculturist who cultivates a garden entirely on his own behalf is better off than an agriculturist who works for the Tuareg. It is also evident that to the agriculturist the *khamast* system is less profitable than the *tilt* system, which again is less profitable than the *aril* system. With the abolishment of the *khamast* system the agriculturists now

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Fig. 149. The market place of Agadez. In the front negroid Hausa men roasting small pieces of meat on a spit; in the background Tuareg camels offered for sale.

pack-camels to the salt pit of Amadror to mine salt in the hot season. They load the camels with salt and bring them to the camp where further preparations for the journey are made. When the caravans have started southwards they stop in the Tamesna plains and rest there for at least one month to allow the pack-camels to feed on annual pasture, and, if necessary, to exchange the pack-camels with others kept by the Ahaggar Tuareg in Tamesna. Thereupon the caravan will continue towards the millet-growing towns and villages of the Sudan to bargain with the Hausa. The caravan returns to Ahaggar again at the end of March or at the beginning of April, so that the total duration of a south-bound caravan is up to six or seven months.

The Sudanese millet trade is of extreme value to the subsistence of the Ahaggar Tuareg. It is particularly important to their economy that they obtain millet for non-nomadic products transported by camels, which are mainly bred outside of Ahaggar. The millet trade is consequently not much influenced by Ahaggar's changeable climate. According to official statistics, the Ahaggar caravans in 1946 exported 375 tons salt, and imported 720 tons millet, while the cereals grown in Ahaggar amounted to 197 tons (cf. Malaurie 1953, p. 344). According to Galan vegetable food grown in the gardens of Ahaggar in 1950 (a bad year) amounted to 121 tons wheat, 5 tons millet and barley, and 4 tons of tomatoes – about 10 kg of wheat and 0.5 kg of millet, barley, and tomatoes per person (Galan 1951, p. 233). We see from this that the amount of cereals acquired in the Sudan far exceeds the amount grown in Ahaggar, and as we have mentioned, the millet trade is also important for the establishment of Tuareg agriculture in their own country where this cereal is used for payments to cultivators. It can also be added that the Sudanese caravan trade is more important to the Tuareg than appears from the figures above. For salt is much more valuable than millet, and for one load of salt the Tuareg receive from four to fifteen loads of millet – in 1946 the price was fifteen to one (cf. Malaurie 1953, p. 344). It is evident that the Tuareg could not take all this millet back to Ahaggar. Most of it is re-sold

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433 439 in the Sudan for such articles as camel saddles, sandals, swords, millet mortars, indigo cotton, earthenware pots, and the like. The Tuareg may also buy quantities of butter and cheese for sale to the sedentary people of Tidikelt and for their own use in dry years.

The Sudanese trade constitutes the great stabilizing factor in the economy of pastoral Tuareg of [262] Ahaggar. In return for the valuable rock-salt, pastoral Tuareg obtain the bulk of their agricultural food products (millet), butter and cheese for their own consumption in dry years, many important artefacts and notably their camel saddles and their millet mortars. They also get a surplus of millet and goods for investment in their Ahaggar gardens and for selling to the sedentary people of the Tidikelt oases.

There are certain Tuareg who do not engage in the Sudanese salt trade, notably those living in Ahnet; and these Tuareg nowadays have no irrigated gardens either. They acquire their necessary vegetable food products from Tidikelt (dates) and from Abalessa and Tamanṛaset (wheat). They buy these vegetable products with their surplus of goats, sheep, camels, butter and cheese, and an occasional [511] barbary sheep. In a good year they can meet their needs of food in this way, but it is most difficult for them to subsist in dry years; and it may happen that two dry years come in succession. When I [114] stayed among the Ahnet Tuareg in 1954–55, all camps visited were very short of food, while the Tuareg of the Ahaggar Massif who engage much in the salt trade (the *Dag Ṛali* and the *Aguh-en-tehlé*) possessed what they needed of wheat, barley, dates, and millet.

[314] To-day there is a rather important market at Tamanṛaset where many Tuareg sell surplus livestock, and where they can also buy cereals and dates. But it is always profitable to sell livestock and meat [435] in the Tidikelt oases where meat, butter and cheese are very expensive articles. Dates are cheap in these 000 oases, European goods and woven blankets are also cheaper than at Tamanṛaset. The trading expedi-

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Fig. 150. Wooden measure (*muda*) which contains one kilo of cereals, or the like. The Tuareg have adopted the kilogramme into their own weight system. The proper Tuareg unit is the *taẓiwa* which, according to Foucauld, corresponds to three kilogrammes (Foucauld 1951–52, III, p. 1160), but nowadays the Ahaggar Tuareg count one *taẓiwa* as equal to two kilogrammes and a half. The Tuareg have wooden or metal measures of *taẓiwa* size, and there are also larger measures to be used for grain, dates, and the like. For units smaller than *muda* the Tuareg sometimes use a wooden measure called *tanaḳast* which holds half a kilogramme. Smaller quantities are measured with the hand held half open, and it is recognized in Ahaggar that one *taẓiwa* corresponds to 99 handfuls. In Ayr it is very common to use a little plaited bowl (*téfakemt*) as the smallest unit of measurement. Dimension: 0.140 m high, 0.125 m in diameter at the rim. (F.M. 168).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

caravans of the south or by Ayr Tuareg who import more millet than they need for their own use. But millet is cheaper in Damergu than at the Agadez market, and most Tuareg prefer to organize their own millet caravans with camels and donkeys as pack-animals. In Damergu most Ayr Tuareg get millet in exchange for livestock or they buy it for money. Their caravans are not always very large, for the Southern Ayr Tuareg of the *Kel Ferwan* group do not organize their caravans co-operatively on the basis of kinship. Many individual households fetch their own millet with a few animals, and it is comparatively easy to do so as the millet growing country of Damergu is not very far away – the distance from Agadez to Tanut is only about 300 kilometres. The Ayr Tuareg do not have to engage in extensive trading expeditions to procure millet, and can buy millet very cheaply. A household, it is said, does not have to sell a great many animals to secure the necessary supply of millet. Three or four camel loads will cover the needs of most households, and this amount of millet can be acquired for comparatively few animals – particularly if the animals vended are sheep, which have become very expensive in recent times owing to the rapid increase of Europeans at Agadez. An extremely good sheep or ram for slaughtering can bring in 2000 to 3000 West African francs, and a Tuareg household which buys millet in Damergu will need less than 10,000 francs to acquire the quantity necessary for a year. Thus the Ayr Tuareg can obtain their millet for a few sheep, and there are very few, if any, who do not posses this surplus, and it should be repeated that the increment of livestock is never stopped by drought periods as in the north. The extremely high price for sheep for butchering is a recent phenomena due to the increase of the French population. Fully-grown sheep or rams are expensive, and this is also the case with fowls, while goats are cheap. I believe we can estimate that a household would have to sell about 15 goats anually to obtain the amount of millet necessary for one year's consumption. However, there is little doubt that it has always been quite easy for the Tuareg of Southern Ayr to obtain the requisite amount of millet in exchange for livestock.

Millet and milk constitute the basic nourishment of the Ayr Tuareg, but they are very fond of an occasional change of food. And I believe that this is one important reason why the Ayr Tuareg, like those of Ahaggar, collect wild seeds even in years when grown cereals are abundant. For a change, the Ayr Tuareg are also extremely fond of dates which are not grown to any great extent in their own country. A few Ayr Tuareg own palms yielding dates of poor quality, and I think that a few households also obtain some dates from Ingal. However, most dates eaten in Ayr are imported from the oasis of Bilma, situated in the very barren desert country between Ayr and Tibesti, about 700 kilometres north-east of Agadez.

The trade with Bilma is apparently an ancient one, and its foundation is salt which is of a very bad quality compared with that mined at Amadror in the north. The rock-salt of Amadror is excellent for food, and though there is one good quality of Bilma salt that is used for food by the Tuareg of Ayr, most salt from Bilma contains much soil and other impurities. This impure salt is excellent for domestic animals which, in Ayr and further south where salt pastures do not exist, need a lot of salt. The Ayr Tuareg, and particularly those who do not visit the country of Azaouar at the end of the rains, need salt not only for their own food but also for their domestic animals. They obtain this from Bilma, which is visited by caravans in autumn or in the early winter. The inhabitants of Bilma, like other oases-dwellers, are in constant need of cereals and meat, and these products are imported

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

by the Tuareg of Ayr, the *Kel Geres*, and other Tuareg. The Tuareg obtain salt generally in exchange for millet, but they also bring with them dried meat, and meat from animals newly slaughtered; and although this meat is largely rotten when it arrives at Bilma it is easily sold to the oases dwellers who are yearning for meat. The oases dwellers have little to subsist upon but dates of which they have a surplus. This is purchased by the Tuareg, who get two loads of dates for one load of millet. The Bilma trade is less important nowadays than it was at the beginning of the century. In 1922 the Bilma caravans comprised about 7000 camels (Buchanan 1926, p. 83), while in 1908, when the trade was already decreasing, caravans numbered about 20,000 camels (Abadie 1927, p. 292). Caravans still go to Bilma to fetch salt and dates, but the salt trade is not so profitable to-day when Bilma salt can be bought fairly cheaply at Agadez, as the trucks bringing provisions from Agadez to the French administration and to the merchants of Bilma, take salt back with them when they return. The Ayr Tuareg do not organize their trading expeditions within family groups or sections as in Ahaggar. A Tuareg who does not want himself to go to Bilma may let a kinsman or a friend trade for him with his camels. The payment for this is a large loaf of salt which constitute one sixth or one seventh of a camel load.

The Ayr Tuareg do not generally obtain salt from the pits of Tegidda-n-tésemt though this place is not very far from the Massif to the west. They say that the Tegidda salt is not as good as Bilma's. The salt of Tegidda-n-tésemt is purchased mainly by the *Iwllemmeden Kel Dennek* when visiting the regions around Ingal after the rains. Some of the *Kel Ayr* who live in the extreme north (the *Kel Tédalé*, and others) occasionally go to Amadror in the north to fetch salt which is taken down to the Sudanese towns and villages. In years when drought prevails in Ahaggar these Tuareg take their surplus of livestock to the market at Tamanṛaset, for in dry years the provision of meat, butter, and cheese consumed in Ahaggar come mainly from Ayr and adjacent regions. When I stayed in Ahaggar in 1954–55 a great many Tuareg of the *Kel Tédalé* came to Tamanṛaset to sell camels, donkeys, sheep, goats, and zebus, and also brought with them large quantities of cow's butter and cheese. The route followed from Northern Ayr to Ahaggar runs via I-n-aẓawa and I-n-abeggi which are the only wells between the two mountain massifs. Water is very scarce and so is pasture, which is mainly limited to a scattered vegetation of annual plants; over very large areas there is no vegetation at all. It is easy to drive camels and donkeys through these regions, while more difficult for sheep, goats, and cattle. The zebus easily get cut hooves from walking on stony ground, while sheep and goats suffer much from thirst. In spite of this, all kinds of livestock can be driven through the barren desert from Ayr to Ahaggar, even as late as the month of March which is extremely hot in the barren desert country. The Tuareg frequently lose animals which die from thirst and hunger during the journey, but the trade is nevertheless extremely profitable as prices of livestock are high in Ahaggar in dry years, while prices of European goods such as tea, sugar, cotton, metal vessels, and the like are extremely low compared with the prices asked for these goods in Ayr.

The Ayr Tuareg, though owning more livestock than the Tuareg of Ahaggar, have a certain demand of agricultural food products. These products are mainly grown outside of the Massif, for the farmers of Ayr grow little millet, very few dates, and part of the wheat grown in Ayr is exported to the oases of Ganet and Ṛat in the north. Though these vegetable products can be purchased at Agadez, it is profitable to fetch them where they are cheap, namely in the Sudan (millet) and in Bilma (dates). And